Amendments to the Claims:

This listing of claims replaces all prior versions and listings of claims in the application:

1. (Currently Amended) A pool monitoring system comprising:

a hydrophone configured to generate an electrical signal in response to receiving a sound pressure wave in the liquid of a pool; and

a processor configured to receive the electrical signal and generate a trigger signal, when the electrical signal includes a characteristic signature over a time period within a predetermined range of time periods.

2. (Original) The system of claim 1 wherein the processor is further configured to determine a trigger level from a background noise level.

3. (Original) The system of claim 2 wherein the processor determines the trigger level by setting a gain of an electrical circuit based on background noise in the electrical signal.

4. (Original) The system of claim 2 wherein the characteristic signature comprises:

a first frequency component, contained in a frequency spectrum of the electrical signal, within a low band with a magnitude above the trigger level; and

a second frequency component, contained in the frequency spectrum, within a high band with a magnitude above the trigger level.

5. (Original) The system of claim 4 wherein the low band comprises a continuous band of frequencies that is a subset of the range 500 Hz to 2 kHz.

6. (Original) The system of claim 4 wherein the high band comprises a continuous band of frequencies that is a subset of the range 2.5 kHz to 5 kHz.

7. (Original) The system of claim 1 wherein the predetermined range of time periods consists of time periods less than 4 seconds.

8. (Original) The system of claim 1 wherein the predetermined range of time periods consists of time periods greater than 0.5 seconds.

9. (Original) The system of claim 4 further comprising:

a first filter configured to pass the first component if the first component is within the low band; and

a second filter configured to pass the second component if the second component is within the high band.

10. (Original) The system of claim 9 wherein the first filter and the second filter are electrical circuits.

11. (Original) The system of claim 9 wherein:

the electrical signal is digitized;

the frequency spectrum is calculated based on the digitized electrical signal; and

the first filter and the second filter include processor instructions that operate on the calculated frequency spectrum.

12. (Original) The system of claim 1 wherein the hydrophone comprises a piezo-electric material composed of lead zirconate titanate ceramic or polyvinylidene fluoride polymer film.

13. (Original) The system of claim 1 further comprising:

a poolside horn configured to generate a sound in response to the trigger signal;

a first antenna configured to periodically send radio-frequency status signals;

one or more monitor units which include a second antenna configured to receive the radio-frequency status signals; and

a monitor horn configured to generate a sound in response to the trigger signal.

14. (Original) The system of claim 13 wherein the monitor units are configured to indicate reception of the radio-frequency status signals.

15. (Currently Amended) A pool intrusion detection method comprising:

generating an electrical signal in response to receiving a sound pressure wave in the liquid of a pool; and

generating a trigger signal in response to receiving the electrical signal when the electrical signal includes a characteristic signature over a time period within a predetermined range of time periods.

16. (Original) The method of claim 15 further comprising determining a trigger level from a background noise level.

17. (Original) The method of claim 16 wherein the characteristic signature comprises:

a first frequency component, contained in a frequency spectrum of the electrical signal, within a low band with a magnitude above the trigger level; and

a second frequency component, contained in the frequency spectrum, within a high band with a magnitude above the trigger level.

18. (Original) The method of claim 17 wherein the low band comprises a continuous band of frequencies that is a subset of the range 500 Hz to 2 kHz.

19. (Original) The method of claim 17 wherein the high band comprises a continuous band of frequencies that is a subset of the range 2.5 kHz to 5 kHz.

20. (Original) The method of claim 15 wherein the predetermined range of time periods consists of time periods less than 4 seconds.

21. (Original) The method of claim 15 wherein the predetermined range of time periods consists of time periods greater than 0.5 seconds.

22. (Original) The method of claim 15 further comprising generating a sound in response to the trigger signal.

23. (Original) The method of claim 17 further comprising storing a count of false alarms.

24. (Original) The method of claim 23 wherein the false alarms include receiving the electrical signal when the electrical signal includes a noise signature that is different from the characteristic signature.

25. (Original) The method of claim 23 wherein the false alarms include receiving the electrical signal when the electrical signal includes a noise signature over a time periods that is not within the predetermined range of time periods.

26. (Original) The method of claim 23 further comprising adjusting the trigger level in response to the count of false alarms increasing above a predetermined number.

27. (Original) The method of claim 23 further comprising adjusting the center frequencies of the low band and the high band in response to the count of false alarms increasing above a predetermined number.

28. (New) The system of claim 1, wherein the characteristic signature comprises respective magnitudes of a plurality of frequency components in a frequency spectrum of the electrical signal.

29. (New) The method of claim 15, wherein the characteristic signature comprises respective magnitudes of a plurality of frequency components in a frequency spectrum of the electrical signal.

30. (New) A pool monitoring system comprising:

a hydrophone configured to generate an electrical signal in response to receiving a pressure wave in the liquid of a pool; and

a processor configured to receive the electrical signal and generate a trigger signal, when the electrical signal includes a characteristic signature over a time period within a predetermined range of time periods, where the characteristic signature comprises respective magnitudes of a plurality of frequency components in a frequency spectrum of the electrical signal.

31. (New) The system of claim 30, wherein each of the plurality of frequency components is within a respective predetermined continuous frequency band, and the frequency bands do not overlap.

32. (New) The system of claim 31, wherein a first of the frequency bands comprises a band of frequencies that is a subset of the range 500 Hz to 2 kHz and a second of the frequency bands comprises a band of frequencies that is a subset of the range 2.5 kHz to 5 kHz.

33. (New) A pool intrusion detection method comprising:

generating an electrical signal in response to receiving a pressure wave in the liquid of a pool; and

generating a trigger signal in response to receiving the electrical signal when the electrical signal includes a characteristic signature over a time period within a predetermined range of time periods, where the characteristic signature comprises respective magnitudes of a plurality of frequency components in a frequency spectrum of the electrical signal.

34. (New) The method of claim 33, wherein each of the plurality of frequency components is within a respective predetermined continuous frequency band, and the frequency bands do not overlap.

35. (New) The method of claim 34, wherein a first of the frequency bands comprises a band of frequencies that is a subset of the range 500 Hz to 2 kHz and a second of the frequency bands comprises a band of frequencies that is a subset of the range 2.5 kHz to 5 kHz.